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AUTHOR Stevens, Betty, Ed.
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ABSTRACT

The Michigan Department of Education with assistance from the Educational Testing Service has compiled the results of valid educational research studies on specific topics into a report to be used as a guide for developing effective schools. It is intended for use by practitioners to help bridge the gap between educational researchers and teachers/practitioners. The report is divided into eight sections, each of which defines one variable shown by research to make a difference in pupil achievement. Included within each section are ideas for applying research findings in a school setting as well as a bibliography. The eight variables are (1) principal expectations, (2) teacher expectations, (3) time on task, (4) classroom organization, (5) reinforcement and feedback, (6) tutoring, (7) recitation, and (8) parental involvement. (MD)

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School Effectiveness

Eight Variables that Make a Difference

EA 017 771

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Introduction

One of the major problems in the educational community continues to be the lack of communication and sometimes the lack of understanding between those people involved in educational research and the practitioners who depend upon the results of the research. The researchers believe the teachers resist change and, therefore, can't take advantage of valid ways to improve instruction. Teachers believe that researchers are working in controlled environments using esoteric language that doesn't transfer to the classroom.

As a way of bringing these important educational communities together, the Michigan Department of Education, with assistance from the Educational Testing Service, has translated valid studies into practice.

The results of the studies have been compiled in eight sections derived from two publications—*Factors Associated with Achievement; An Annotated Bibliography,* and a comparison summary, *Variables That Make a Difference.* Each section defines one of the eight variables that research indicates make a difference in pupil achievement, and includes some ideas for applying them in a school setting. A creative staff will incorporate them within the policies and practices of the classroom and school. The titles of the sections are as follows:

1. Principal Expectations
2. Teacher Expectations
3. Time on Task
4. Classroom Organization and Management
5. Reinforcement and Feedback
6. Tutoring
7. Recitation
8. Parental Involvement

Phillip E. Runkel
Superintendent of Public Instruction

Fall, 1984

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Principal Expectations

Variable 1: High Expectations on the Part of the Principal are Associated with Greater Student Achievement

"In time, student behavior and achievement will conform more and more closely to the achievement and behavior orginally expected of them." (Good and Brophy, 1977)

This suggestion of a self-fulfilling prophecy is confirmed in a number of other studies concerned with the climate necessary for school improvement. Brookover, et al., 1977 and Gigliotti, 1975, indicate that principals who possess high expectations of their students and a firm belief that all their students can master basic academic objectives tend to be in schools that are successful or improving in terms of achievement.

Knowing what we do about the self-fulfilling prophecy and how our expections of people may even cause us to treat them in particular ways, it becomes even more important to learn what research indicates about high expectations on the part of the principal.

Principals in effective schools place a strong emphasis on the accomplishments of objectives. They are assertive instructional leaders who convey expections in such ways as:

- Establishing concrete norms and goals for teachers and students
- Formulating procedures for evaluation of achievement of objectives
- Making numerous classroom observations
- Providing more teacher inservice on instructional skills

There are four areas in which the principal's role in creating high expectations is important.

Climate

The principal determines the tone, ambiance and style of the school. Those principals of effective schools strive to create an orderly

environment which is conducive to the academic growth and development of staff and students alike. As part of this "center for learning" the atmosphere must also be a pleasant place for students and staff alike.

Principals of effective schools see themselves as overseers of their building and subsequently want to be cognizant of all building activities. In addition to being the leader in the development of school climate, effective schools have principals who are instructional leaders.

Self

To have clear expectations of others, one must first be able to define and communicate one's own expectations.

In addition to the efficient handling of paperwork and other routine tasks, principals of effective schools tend to maintain high visibility and accessability to parents, students and teachers.

As instructional leader, the principal becomes assertive while emphasizing increased achievement through the use of instructional goals and a coordinated curriculum and programs.

According to the research of Bruce Howell (1981), when the principal serves as instructional leader, a partnership must be formed with staff and students to set instructional goals, coordinate the total program and finally, to evaluate the program.

Through this strong emphasis on objectives, the principal can become a more effective administrator by:

1. Regularly evaluating student achievement.
2. Conveying expectations to students and teachers, then regularly checking to see if they are being met.
3. Recognizing how well one's own students are doing relative to those achievement levels of other schools.

Teachers

As instructional leader, the principal must convince teachers that all students can be taught and that none will fall below minimum levels of achievement. Although a variety of approaches may be used in the attainment of this goal, none is more important than cooperative efforts between principal and staff.

Reaching agreement with teachers on achievement outcomes and standards is the first step toward the development of more effective schools. Thus, regularly scheduled teacher evaluations (based on predetermined objectives), accessibility to the principal, positive reinforcement and feedback, suggestions for further personal development, mutual goal setting, and setting priorities are a few of the strategies which may be used to work together toward building more effective schools. Teachers need principals who will provide them with support and help them succeed!

In one school, the principal, in conjunction with the staff, sets a particular school-wide improvement goal for the year. Staff members set at least one additional individual goal. Throughout the school year, progress reports are made at staff meetings, and time is devoted to discussion of techniques and strategies staff members have used in working toward achievement of the school-wide goal and of the individually chosen goals.

Students

Not only must the expectations of principals and teachers be clearly conveyed to students, they must also be believed **and** accepted by the students. And as an integral part of this process:

1. Expectations for students must be clear and understood.
2. Evaluations of student achievement and reiteration of expectations must occur on a regular basis.
3. Students must have accessibility to the principal.

> A principal in one secondary school meets with classes of students at least twice during the school term to discuss "how it's going." The teacher of the class may sit in or leave the room during this discussion period. The decision is the teacher's.

Exhibiting Leadership

Leadership can take various forms and may, in part, depend upon individual style. However, here are six practical methods principals can use to exhibit leadership qualities:

1. Make frequent observations and participate in staff development activities.
2. Clearly communicate to staff and students alike.
3. Make decisions about the instructional program - collective efforts particularly helpful.
4. Coordinate the instructional program.
5. Be actively involved in the planning and evaluation of the program.
6. Communicate high standards and expectations for the program.

School programs and policies can be developed to:

- Encourage increased principal observations in classrooms and feedback to teachers and students.
- Select building-wide or district-wide achievement goals.
- Provide incentivies for additional professional training.
- Reduce administrative paperwork.
- Communicate school-wide expectations to the community.

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Teacher Expectations

Variable 2: High Teacher Expectations are Associated with High Achievement.

Can individual student behavior and achievement be significantly influenced by the expectancy of the teacher? Research studies have shown varied results when individual students are considered.

Research does show, however, that broad, global teacher expectations do seem to have a positive influence on students. This kind of expectation takes the form of a belief that all of a teacher's students are able to master basic classroom objectives and to succeed. This belief, in turn, seems to be accompanied by a feeling that the teacher can make a difference. These teachers, then, tend to place a strong commitment to their teaching and to place strong emphasis on the importance of achievement.

In coming to know students during the opening weeks of school, teachers gradually form expectations concerning their academic performance and their behavior. At this time expectations are also formed.

Expectations about students can serve a number of important purposes. They can promote positive interaction between teachers and students. They can help with grouping students into areas where special help is needed. They can help to extract the best work possible from each individual student.

Expectations can be inhibiting, too. For example, a teacher expecting a student to perform poorly may treat that student differently from other children. A teacher expecting a particular behavior may ignore or misinterpret a contradictory behavior forcing the student to conform to the initial expectation.

Much of the current literature supports the idea that teacher expectations differ from high to low achieving student groups. In their 1968 study, Rosenthal and Jacobson made some interesting discoveries about teacher expectations.

In their study, teachers were told that a test had been given to their students which was designed to identify intellectual "late bloomers." They also were told that the students who were identified as "late bloomers" could be expected to show large achievement gains during the school year.

Actually, the late blooming students had been selected randomly, by the researchers, not on the basis of any test. Thus there was no real reason to expect large achievement gains from any of them. When the students were tested at the end of the year, the "bloomers" did show significantly higher achievement gains. Because of these results, Rosenthal and Jacobson claimed that the expectations created by the treachers' knowledge of the phony test data encouraged the teachers to behave differently toward the "bloomers" causing them to make the high gains.

Teacher Behaviors Toward Low Achievers

In other related studies, researchers have observed and recorded teacher behavior toward differently classified students. There is agreement among them that there exists definite differentiation in teacher behavior toward "low" and "high" students. In general, teachers encourage responsiveness and participation from their high achievers,

offer them more challenges and more difficult goals to achieve. From high achievers, teachers expect more, motivate more, and usually receive more.

With slow learners, teacher behaviors are quite different. Teachers seem to unconsciously discourage participation and responsiveness. Here are some of those behaviors which discourage participation and responsiveness:

1. Seating slow students farther away from the teacher. This makes it more difficult to monitor these students and to treat them as individuals.
2. Paying less attention to slow students. Teachers smile and make eye contact less often.
3. Calling on slow students less frequently to answer questions.
4. Waiting less time for slow students to answer questions.
5. Failing to provide clues or ask follow-up questions in problem situations with slower students.
6. Criticizing slower students more frequently for incorrect answers.
7. Praising slower students less often for correct answers.
8. Giving slower students less feedback and less detailed feedback.
9. Demanding less effort and less work from slower students.
10. Interrupting the performance of slower students more frequently.

As a result of these behaviors, students tend to become less willing to take risks in the classroom by volunteering answers or seeking the teacher's help. If teacher behavior is consistent and students do not resist or change it in some way, it will shape their behavior. In time, students' behavior and achievement will conform more and more closely to the achievement and behavior originally expected of them. (Good and Brophy, 1977)

Self-Fulfilling Prophecies

Another problem which low achieving students face in terms of teacher behavior is inconsistency. Teachers tend either: 1) to be annoyed with low achievers and, therefore, criticize or ignore them more frequently, or 2)to be overly protective of low achievers praising them for incorrect or marginal responses.

When experiencing this type of inconsistency, a student can easily conclude that effort has little to do with reward. Without appropriate feedback, students have difficulty evaluating their progress.

This encouraging or discouraging behavior toward students may, in many cases, cause what Brophy and Good term "Self-fulfilling prophecy." Self-fulfilling prophecy exists when teachers behave in ways which tend to make their expectations come true.

> Teachers using mastery-learning strategies found that the majority of students became very successful. One teacher said, "My classroom suddenly became overpopulated with good students."

Using Expectations to Improve Achievement

It is important that teachers develop and communicate appropriate behaviors; but without appropriate teaching skills, com-

municating behaviors will do little to enhance and promote student learning.

Teachers can avoid many of the problems cited here by focusing on instruction as their main task. The teacher's main responsibility is to teach. A teacher's job involves many roles besides that of instructing students; however, they are subordinate to and in support of the major role of teaching. Important as they are, they must not be allowed to overshadow the teacher's basic instructional role.

Teacher expectations can be used as tools to extract the essence of achievement from each and every student. Following are some broad guidelines to use in developing appropriate expectations for students:

1. Concentrate on the business of teaching - instruction comes **first.**
2. Set positive, specific, well defined goals for students.
3. Expect all students to achieve those goals.
4. Approach instruction in terms of individuals, not groups.
5. Learn to recognize inappropriate behaviors toward low achievers and correct them.
6. Learn to recognize positive, appropriate behaviors and use them in the best possible way.
7. Avoid self-fulfilling, self sustaining expectations.
8. Be responsive to individual student needs.

Students are not all alike physically and mentally, but they **are** all alike in having the right to an equal opportunity to learn.

Programs or policies a school might consider include:

- Emphasis on mastery learning.
- Teaching, learning, and grading policies that stress high success experiences.
- Tutoring programs for students who need extra help.
- Rewards for student achievement. These might take various forms from school board certificates to tickets to entertainment or cultural events
- Administrative emphasis on high expectations.

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Time on Task

Variable 3: The more time spent on instruction, the greater the achievement gain.

Background

Historically, educators have been interested in making more efficient use of school time to foster learning. They have carried out studies to determine how school time was allocated to different subjects and how time allocations differed from school to school since as early as 1915.

Researchers recently reported great variability among schools in the allocation of time and suggested that huge variation in allocated time is a fact of life in our elementary schools.

Research has shown consistent positive relationships between time on task and achievement. It seems logical to assume that merely allocating a certain amount of time to a subject is not enough. We should be able to produce greater gains in student achievement by using allocated time more effectively.

The literature discusses allocated time, time on task, or engaged time and academic learning time.

Research studies refer basically to three "kinds" of time:

- Allocated time—time variables within a school, such as length of school year, length of school day, length of classroom periods, attendance rates, and so on.
- Time on task—the time a student is actively engaged in learning. This is sometimes referred to as "engaged time."
- Academic learning time—the time a student is engaged in learning in which he/she is successful.

Research studies have found consistent positive relationships between engaged time (time on task) and student achievement. The Beginning Teacher Evaluation Study (BTES), conducted from 1974-78, focused on reading and mathematics and developed a measure of student learning called Academic Learning Time. The findings of BTES showed that allocated time in mathematics varied

from 25 minutes per day to 60 minutes per day. Allocated time in reading varied from about 60 minutes per day to about 140 minutes per day. Average rates of engagement also varied dramatically! There were some classes where engagement averaged 50%; in other classes average engagement rates approached 90%.

BTES also found high correlation between achievement and academic learning time. Achievement was higher in classrooms where students were actively involved in learning tasks and activities where they achieved medium to high success.

Allocated Time

Allocated time could be increased through the development of school programs or policies that would:

- Lower teacher and student absentee rates.
- Minimize interruptions from outside the classroom (loudspeaker announcements, message delivery, student tardiness, etc.)
- Increase the length of the school day or the amount of time for a particular subject or the length of class periods.
- Cut down on travel time within the building.
- Decrease time between classes.
- Streamline procedural tasks for labs, [illegible] arts, etc.

Schools have increased allocated time in these ways:

Two morning 10-minute recesses were combined into one 20-minute recess, thus reducing transition time.

The "calling" of students to the office over the public address system takes place only during the time classes are passing.

Custodians, resource personnel, secretaries, or the principal enter rooms only at normal transition time unless there is an emergency.

Exit and reentry times for students leaving class for music, speech, etc. occur at natural transition times.

Time between classes was reduced from seven to three minutes.

Routines were taught to students for those procedural tasks that take time away from instruction (collecting lunch or milk money, etc.)

Time on Task

Research has consistently shown correlations between time on task and student achievement. In attempting to increase time on task, schools could consider policies to:

- Increase the amount of teacher time that is spent in direct instructional contact with students.
- Provide teachers with time-management workshops.
- Develop and maintain an academic, "down to business" atmosphere.
- Monitor seat work.
- Eliminate distractions from outside the classroom.
- Encourage teachers to plan effective, relevant lessons and to reward time on task.

In one elementary school, simulations and role-playing activities were used early in the school year to help teach students not to be drawn off task by a distraction. As an exam-

ple, two children simulate an argument. The class is told that it is okay to check out what is happening (they would anyway), but they are also taught to get back to work once they've checked it out. The simulation is played out and the children practice the desired behaviors.

On-task behavior can be rewarded in a number of ways. One such is a sustained silent reading program. One school has this every day from 12:40-1:00 p.m. Everyone in the school (students, teachers, aides, secretaries, custodians, and parents) reads something of their choice in the classroom. The phone is off the hook, the office is locked, and a sign informs visitors that they will be helped at 1:00, but in the meantime, they are invited to take a book from the stack outside the office door and read!

Student engagement rates are higher when students are involved in more academic interaction with the teacher, when they are working in a group setting, and when teachers more consistently monitor and provide assistance.

Some changes schools have made include:

- Classroom aides, (who might be paid or unpaid) can correct papers, work with small groups, or do recordkeeping—thus freeing the teacher to work more directly with students.
- Multiple-response techniques are utilized regularly when working with groups, especially for recall or short answer responses. One staff development session was spent making individual student chalkboards out of cardboard covered with black contact paper. When a question is asked, students respond on their chalkboards, which they hold up for the teacher to monitor. The result is a higher engagement rate since all students participate every time. The teacher can also better diagnose the group's learning and pace the lesson accordingly.
- Independent learning centers are monitored by cross-age tutors or parent volunteers unless the station has an audiovisual focus of interest such as a tape or filmstrip that the student can operate on his/her own.
- Individualized self-paced instruction is done only with small, monitored groups. Self-directed kits and programs are never used with the whole class since monitoring and immediate feedback are extremely difficult when the adult/student ratio drops below 1:10.

Academic Learning Time

Increasing academic learning time is the real goal of schools—providing students with highly successful, on-task experiences. In addition to the suggestions and examples under the time-on-task section, teachers, in planning for increased academic learning time, might also choose to:

- Use materials that are at the appropriate level of difficulty for students.
- Increase guided practice when students are learning new content or skills.
- Teach skillls in a sequential order (where appropriate).
- Allow flexible grouping and regrouping of students.

The literature and research continues to look at time on task as one of the important variables in academic achievement. It's difficult to pick up an educational paper or

journal and **not** find some mention of time on task.

Programs and/or policies a district might consider implementing include:

- Incentives to teachers to improve attendance.
- Stipend payments to teachers in buildings where students' academic gains on standardized tests exceed those mathematically predicted.
- Rewards to students for attendance that meet or exceed a certain standard. Such rewards might take the form of tickets to amusement parks or particular sports or cultural events.
- Public analyses of attendance and achievement data.
- Parent programs to highlight the importance of attendance, homework, etc.

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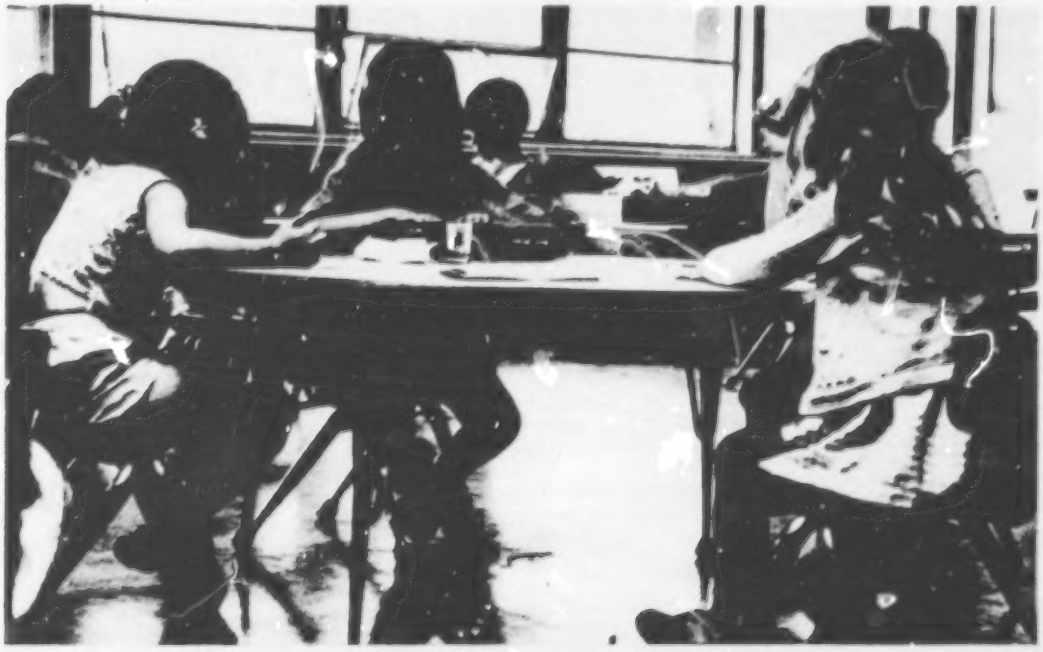

Classroom Management

Variable 4: Higher achievement gains are more likely to occur in classrooms characterized by a high degree of structure, with teachers who are supportive.

"Although classroom management is often discussed in terms of dealing with misbehavior, research on classroom discipline (Kounin, 1970) and on behavior modification generally (Bandura, 1969) suggests that this approach puts the cart before the horse."

Classroom management, as "defined by the school effectiveness research includes those teacher functions variously known as "discipline, control, keeping order, motivation, and establishing a positive attitude toward learning among others."

"Generally the most important determinant of classroom atmosphere is the teacher's method of classroom management, especially his or her techniques for keeping the class actively attentive to lessons and involved in productive independent activities. (Good and Brophy)

Discipline, control, structure, maintenance of order, motivation, establishment of a positive attitude toward learning, keeping the class actively attentive to lessons, and keeping students involved in independent activities are all a part of what research shows effective classroom managers do in their classrooms.

A teacher may be well-trained and extremely knowledgeable in a wide variety of subjects, but, if that teacher is not also an effective classroom manager, all students will not learn.

Numerous studies tell us that sharp managerial skills increase student time on task, create a productive learning environment, and, consequently, promote achievement gains. But what does the effective classroom manager do more specifically? How does an effective manager prevent disruptions and deal with misbehavior? How can teachers provide structure for students while insuring that they mature into individuals who can complete work independently?

In translating research theory into practice, classroom management strategies will be considered in terms of structure, student accountability, momentum, and independence.

Providing Structure

Goals and Objectives: To a large extent, the research defines structure as goal direction. Having goals and specific objectives for lessons and making them clear to students, is one way to provide structure. Learning theorists have found that both advance and post-organizers are helpful in promoting learning. Teachers can let students know the objectives at the beginning of the lesson and then provide time at the end to summarize.

Structure does not mean rigidity. Teachers must also be mindful of the fact that a positive climate or positive feeling tone is important. This would include verbal and non-verbal support for student work and behavior.

Routines: A large percentage of classroom time is composed of frequently-repeated behaviors such as lining up for lunch, handing in papers, getting supplies, visiting the restroom, and using special materials or

equipment. The development of efficient, easily understood routines for such activities makes more time available for instruction.

Rules: Teachers who are effective managers tend to begin teaching rules the first day they meet students. In developing rules, there are some things to keep in mind.

- State them in positive terms.
- Keep them brief and easy to understand.
- Keep them few in number.
- Teach them as any "content" is taught.
- Explain them in detail as part of the instruction and reinforce them consistently from the very beginning.
- Include students in the development and modification of rules.

Arlin (1981) describes one excellent primary school classroom manager: this teacher's room was judged by an observer to be outstanding in orderliness and self control. When asked for an explanation the teacher explained that at the beginning of the year students were drilled in behaviors such as replacing books, walking quietly to the gym, etc., even to the extent of having children put their hands over their mouths during the first practice in walking to the gym. This intense early training paid off handsomely throughout the year: these students responded rapidly and in an orderly way to brief, simple signals for new behaviors.

Transitions: Most teachers agree that transition times provide prime opportunities for student disruptions. The purpose of a transition is to halt activity and attention in one area and direct it toward another. When students are naturally left in those few moments with no specific focus, disorder and disruption can sometimes occur.

Transitions may be structured as follows:

- Provide advance preparation. Studies show that advance organizers encourage students to remain on task, with attention focused on the teacher. Organizers consist of reminders that a new activity will be coming up very soon:

  "OK, your science projects start in ten minutes. Begin clearing off your desks." Or, "While you're clearing your desks, be thinking about our science lesson yesterday. Be ready in ten minutes to share a step in the scientific method."

- Allow some time between activities. Keep this time brief so that momentum isn't lost along with class attention. Follow through with instruction for the next activity.

  Some students need a few moments to clear their minds of the previous activity and center their attention on the teacher. A statement might be, "Pencils down; eyes on me." Prompt those students who don't respond in a timely manner. "Margo needs to put her pencil down." "Ron, I don't see your eyes." Or, in a more positive fashion, pointing to those who do! For example, "Amy's eyes are on me; Tod has his pencil down." etc.

- Avoid "flip-flops." A "flip-flop" is an occasion where a teacher ends one activity, begins another, and then returns to the previous activity. The teacher who says, as children are flying out the door, "Don't forget to bring money for the trip tomorrow!" or "Remember to have your parents sign the permission slip!" will find students who have forgotten. Instructions delivered in this way are almost guaranteed to be lost in the shuffle. Plan transitions so that enough time is allowed for the class to settle down, and then proceed with the necessary directions.

Supervision. This is, in part, the old eyes in the back of the head trick. Effective managers have that automatic scanner going—their eyes are constantly moving around the room. Kounin calls this "withitness." These teachers regularly scan their classes to keep an eye on what's happening in the classroom.

Keeping Students Accountable

Teachers who require their students to be accountable produce classrooms characterized by productivity, responsibility, and high time on task. Maintenance of student accountability is particularly important for low-achieving students. Low achievers are much more likely to remain attuned to instruction when they know they'll have to demonstrate or use that knowledge at a time close at hand.

Some examples teachers have used to maintain accountability are:

- Ask a question, allow time for thinking, then call on someone. If a teacher always begins by focusing

on a single student, others will figure they're "off the hook."

- Ask more than one question of a given student.
- Question a student again after a response to an earlier question.
- Ask questions in a varied and unpredictable manner.*
- Ask students to repeat, agree or disagree with, or elaborate on a previously given response.
- Ask all students to listen to the answer being given so they can add to the given response.
- Monitor the classroom to include students who may be off task. This monitoring may take the form of questions, comments, or just plain old walking around!
- Provide shy students with opportunities to respond.

Developing and Maintaining Momentum

Begin lessons by getting good attention. A standard signal is one way to do this. Teachers use many different kinds of signals. Whatever one chooses, it should be taught to students and used consistently.

Be aware of how long an activity takes. Researchers have found that 15 minutes is about as long as individuals can pay attention without some type of change in variety, technique, etc.

Don't rehash material that students already know. Good and Brophy point out that review lessons are abused by some teachers. When students clearly know the material, the review should be cut short. There is no need to ask the next 35 questions simply because they are in the teacher's manual. If certain students in the group do need further review, it would be better to work with them individually or to form them into a special group rather than to make all the others go through the review too

Stimulate attention periodically. Some advice that teachers give repeatedly to their students is "Speak with EXPRESSION! A dull monotone can extinguish interest in the most lively subject." Teachers don't have to be Katherine Hepburn or Laurence Olivier, but remember that varying of voice tone and style of delivery as it suits the topic can help gain attention. Enthusiasm about the lesson and the subject itself is contagious.

One way to stimulate this is to incorporate into teaching, examples that are of genuine interest. Pick a favorite baseball team to demonstrate how to compute a batting average in math classes. Have your students pick their favorite players, too. A teacher who had a fondness for African violets used these to demonstrate photosynthesis and the effects of the light and dark on flowering.Another captivated by Renaissance and Baroque music, played recordings of favorite pieces for students while teaching the history of that period. While focusing on a topic of real interest to teachers and/or students, it's easy to show and see enthusiasm.

An additional way to stimulate interest is

*There is a caveat to this rule. Some research has indicated that very young students can benefit from a predictable, orderly recitation pattern. This may be because extremely young students are not well socialized into the school environment, and are not entirely comfortable there. So they may find the additional anxiety of unpredictability in recitation too great a distraction. Also, younger children tend to "worry" about response opportunities. They are sometimes afraid that they'll never get a chance to speak. Having a predictable row-by-row pattern of recitation assures them that eventually their turn will come.

to use a variety of teaching techniques. Group responses, individual responses, demonstrations, readings, factual questions that fit the topic are just some variations teachers use.

Bail out when necessary. Sometimes lessons are just too long. If the teacher's time is spent mainly in repeated attempts to gain attention, it may be best to terminate the lesson. Many times reteaching is necessary anyway.

A variety of teaching techniques are needed to stimulate interest. John Goodlad's *A Study of Schooling* (1980) found that students are exposed to approximately two hours of "teacher talk" during a five-period day. There must be more variety in teaching. Students need to have opportunities for demonstrations, discussions, simulation and role playing, use of audio-visual equipment, physical performing and production of products other than written work.

Teaching for Independence

The strategies discussed thus far suggest a classroom characterized by a high degree of teacher control and direction. Planning independent student activities, however, is also an important component of long-term effective management. Students need to practice self-control and self-discipline in small doses in order to eventually become productive both in and out of school.

Assign specific skills. Work on skills should not be "busywork." It is an opportunity to extend practice and to develop specific skills. The great violinist Itzhak Perlman says, "The *quality* of practice is basically what counts . . . you have to know why you practice—what is the ultimate goal in a particular piece, in a particular section . .

For example, if you are practicing a 20 minute piece over and over again, that's not going to be helpful. But if you have a little spot of thirty-second notes that is bad, then you should focus on practicing that." The same applies to specific skill development in the school setting.

Teach students what to do when they're stuck. How do students get help if needed? One teacher teaches students the "Three before me" rule. Then students are stuck, they follow this sequence:

1. Try to figure it out by going back over the work.
2. Quietly ask a neighbor for help.
3. Skip it and go on to the next problem, question, or activity.

A teacher who wants to convey high expectatons to the class might say, "We have a lot of work to do today—there's no time to talk or to fool around." An example of feedback to an individual student is, "Dorothy

had most of her assignment completed and should have no difficulty finishing on time."

Encourage effort. Communicate positive expectations to students—"I know you can do it." Provide suggestions or cues to increase a student's motivation to continue. With students who may be struggling, check their progress more frequently.

Classroom management doesn't just happen! It develops as a result of a teacher who realizes that good management is a backbone of good teaching and makes a commitment to managing the curriculum, to managing the enviornment, and to teaching students how to live within the environment and learn the curriculum!

The preceeding sections have focused on what teachers can do in classrooms. But what about administrative support? What about school-wide policy?

Research indicates that *some schools are distinctly better at maintaining good student behavior,"* at promoting achievement, and at providing support for classroom teachers.

Advanced planning, cooperative curriculum development, agreement on and enforcement of school-wide rules, policies on homework, and ways to cut down on interruptions to classrooms are just some of the effective things administrators can do to help create a school-wide atmosphere that is conducive to a positive climate and one that demonstrates high achievement.

A 1979 secondary school study (Rutter) concluded that "the impact of school will be greatly influenced by the degree to which it functions as a coherent whole, with agreed ways to doing things which are consistent throughout the school."

The section on Principal Expectations is another source of ideas. In addition, the reader might wish to review the bibliography for other readings.

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Reinforcement and Feedback

Variable 5: When teachers use positive feedback/reinforcement, student gains in achievement are greater.

Reinforcement and positive feedback are frequently used by teachers who are successful in raising the achievement levels of students. Once the teacher identifies those desired learning behaviors, effective use of reinforcement theory will lead the student toward higher achievement levels. To apply reinforcement theory in the classroom setting the teacher must first understand positive reinforcers, consequences and extinction. Teachers must also be aware of effective uses of praise and feedback.

Reinforcement

Positive reinforcers are those things which the learner wants or needs. By supplying a positive reinforcer immediately after the desired learning or behavior occurs, the likelihood of that behavior occurring again is increased. Stated another way, if the desired behavior is to persist, the payoff must be effective.

A teacher who chooses to use positive reinforcement in a classroom setting might select one of the following approaches:

- When you finish the assignment, I have a surprise for you.
- Class will be dismissed when all of you are seated at your desks and when the floor is clean.
- Before being dismissed for lunch, you must have the assignment completed.
- When the class finishes today's assignment, we'll begin making plans for our trip to the museum.

In other words, first you work and then you play.

Consequences

Consequences refer to something that is not wanted or needed by the learner. By providing consequences for behaviors which are considered undesirable you decrease chances of that behavior occurring again. An example of such a consequence might be having a student stay after school regularly.

Extinction

Extinction is what results when behavior is not reinforced. An important note here is that to be extinguished the behavior must not receive any reinforcement—and in a classroom setting that can be sometimes very difficult. An example of this is the constant foot tapping of a student. If completely ignored (not reinforced at all!) this behavior will eventually become extinguished. Extinction **does** take time. Sometimes teachers **can't** wait long enough.

Positive Feedback

Positive feedback may also serve as a reinforcer but it is essential to know what kinds of feedback the learner views as being positive. Not all students place the same value on the same types and amounts of feedback.

For example, praise doesn't always work as a reinforcer. Research, in fact, indicates that extensive use of praise correlates negatively with learning gains in high-ability

classes or high socio-economic status (SES) classes (Anderson, Evertson, and Brophy, 1979; Brophy and Evertson, 1976; Good, Ebmeier and Beckerman, 1978; Martin and Veldman, 1983).

Teachers can, however, use praise as a reinforcer when it is closely followed in time with special activities or privileges. A teacher might say: "Since you have worked so well for the past thirty minutes, you may work together in small groups for the remainder of the period."

"Effective praise can provide encouragement and support when made contingent on effort, can be informative as well as reinforcing when it directs students' attention to genuine progress or accomplishment, and can help teachers establish friendly personal relationships with students."

For praise to be an effective reinforcer, it must be timely, accurate and specific. The following steps may serve as a helpful guide when using feedback:

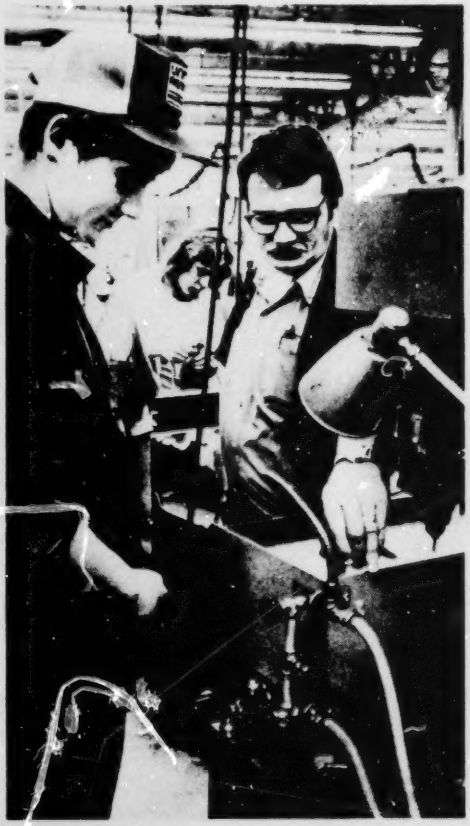
- Select the acts, behaviors, or standards of performance that you want your students to display.
- Clearly and concisely communicate these standards to your students.
- Provide feedback as soon as possible. (This feedback must be specific, accurate and understood by your students.)

As part of the feedback process, teachers should begin by using positive reinforcement. This may be done with verbal recognition, appreciation and praise when the standards are met. Encouragement and gentle reminders are also helpful when standards are not met.

Evertson and Brophy suggest the following points in the use of praise:

1. Be specific.
2. Focus on the material being covered.
3. Be consistent.
4. Do not praise "heavily, inaccurately or habitually.
5. Be sincere.

"From a social learning/reinforcement point of view, praise can be an effective technique for teachers who 'pick their spots' by praising sparingly, concentrating on those students who respond well to it (it reinforces their desirable behavior) and making sure to meet the criteria of contingency, specificity, and sincerity/variety/credibility."



Three Types of Reinforcers

In the book, *Teaching Makes a Difference*, Cummings, Nelson and Shaw emphasize three positive reinforcers: social, activities and tangibles.

Social reinforcers are the approvals from those persons whom the individual considers to be important. Sometimes this might be the teacher, but in many cases positive social reinforcement from peers is even more effective. Methods for giving social reinforcement include compliments, praise, acceptance, encouragement and smiling.

Activity reinforcers provide opportunities for students to become involved in events which they prefer. Thus, students are rewarded with the activity of their choosing once they have met the standard set by the teacher.

Teachers can find out what is reinforcing for students by watching what they choose to do. For example, upon noting the children's preference for running and being noisy, a bargain was made. If the children would listen for two minutes, they were rewarded with running and noisy time outside. More practical examples of classroom activity reinforcers include: choice of assignments, free time, early dismissal, tutoring opportunities, and so on.

Tangible reinforcers include such things as stars, stickers, and smiling faces. A danger with tangible reinforcers is that students can become hooked on gaining the reward without giving much attention to the task in which they are involved. To get off this system so teachers won't always need it, tangible reinforcers and tokens should be paired with praise and affection so these social reinforcers will gain reinforcing power.

Tutoring

Variable 6: The use of tutoring is related to increased academic achievement.

Studies (Crofton and Goldner, 1980, among others) have shown that tutoring is effective in improving achievement. The tutor is often an aide or another student, and is not intended to take the place of the teacher, but rather to supplement the teacher-directed classroom activities.

Research by Gartner, Kohler and Riessmer, 1971, has indicated that tutoring is especially effective with low-achieving students and an excellent way to individualize within the classroom.

A High Intensity Tutoring program operated in Highland Park, Michigan, middle schools from 1970 to 1982. All students were tested at the beginning of the year; those who were at least a year below grade level in reading or math were eligible to be tutored. Older students who needed work to upgrade their basic skills were chosen by the teachers to serve as tutors—most tutors were former tutees. Four days per week the tutees left an academic class for half the hour period. The tutors left a different class each day for three days a week.

A high school program in which high school students received academic credit for tutoring elementary school children benefited all involved. The elementary school coordinator and high school counselor worked closely to monitor the program. Weekly progress reports or weekly time sheets were completed by the tutors. (Rich, 1979)

The pairs worked together in rooms set aside for tutoring—one room for math, another for reading. A ten minute drill in basic facts was followed by questions and answers from workbooks suitable for programmed instruction. Tutees earned points for correct answers which were tallied and periodically cashed in for rewards.

A second grade teacher used parent volunteers to tutor students in language arts and reading. They were given a lesson plan for the day, complete with objectives, sample questons, and the materials needed for the activities. The teacher met with the volunteers regularly to share experiences, discuss problems, and report successes. The children showed great improvement in their work and increased self-confidence since the tutorial program began (Baker, et al., (1982).

Benefits to Tutor

In most tutoring programs the emphasis has been on improving the learning of the recipient. Lately, more attention has been given to the benefits to the student acting as tutor. These benefits are both emotional and cognitive.

For older students who have not learned basic skills, tutoring is a means of off-setting the stigma of relearning basic skills. It is also good for their ego to be able to help teach younger students. In order that they not fall behind in their own studies, tutors should not be pulled out of academic classes for tutoring sessions.

Tips for Establishing a Tutoring Program

The initial considerations in establishing a tutoring program include administration; goals for the program; selecting students to be tutored; selecting tutors; training tutors; pairing tutor and tutee; logistics (scheduling, space and materials); monitoring; and assessment.

Administration: It is important at the beginning of a tutoring program to solicit active support from all levels, although one person needs to have central responsibility for the program. Since children cannot manage the activities, adult supervision is needed when elementary school children are used as tutors.

Goals for the program: Behavioral and instructional goals should be determined before tutoring begins. The teacher must create goals for the students, specify objectives that reflect the goals, determine methods to attain the objectives, and establish procedures to assess attainment of the objectives.

Selecting students to be tutored. Often the goals for the program determine the criteria by which students to be tutored are selected. Two factors to be considered in selecting students are:

1. The potential of the student to exhibit change in academic performance; and
2. The student's attitudes toward learning.

Selecting tutors. In peer or crossage tutoring programs students of varying intellectual levels can tutor successfully. For students of average or above average ability who are achieving below grade level—ser-

ving as a tutor can be an effective means of motivation.

Basically, attention should be given to selecting tutors who will benefit the most from the tutoring experience. Students chosen as tutors should be able to handle the responsibilities involved, such as, knowing the lesson, becoming involved in the development of the materials, listening, prompting, modeling reinforcement, etc.

Training tutors. Before tutoring begins, tutors should be trained. Two types of training are necessary: training in the area in which the tutor is helping, and training in human relations. Continued staff development should be provided after the program begins. A nonprofessional adult can conduct the tutor training sessions. Time should be allocated for tutors to meet regularly with the tutee's teacher to exchange ideas, discuss results, and plan new strategies.

Pairing tutor and tutee. The pairs should be monitored closely and reassignments made when learning or affective goals are not being met. A few studies have been done on the effect of racial/ethnic grouping, but they have not provided a clear answer.

Logistics. Tutoring programs vary widely in the length and number of sessions. An important consideration is the time of day to conduct the sessions– the pairs should meet during the same time period each day they are tutoring. Ideally, there should be a quiet, private location for the sessions. In many programs, preparation of materials to be used in the sessions is done by the tutors. A program which explicitly defines the content, sequence and procedure of each lesson is more likely to be successful than a loosely structured program.

Monitoring. The tutoring pairs should be routinely monitored. The monitoring process can be simplified by using a checklist developed from the objectives. A nonprofessional adult can be used for monitoring.

Assessment. Selection or the development of instruments to assess the progress toward instructional goals is necessary. Assessment should be conducted regularly to provide reinforcement to the tutor and tutee and to show when modifications may be necessary.

Programs and Policies

A district might develop a plan for using community members as tutors through a volunteer program. These people might be parents, senior citizens, or citizens who may not have children in school but who may wish to assist. The plan must, of course, include provisions for training of volunteers in tutoring. Student-team learning strategies have been found to be successful in increasing peer-tutoring.

Through a program of cooperation with business/industry, a district may find opportunities for developing tutors.

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Recitation

Variable 7. Recitation promotes greater achievement gains, and the use of "factual" questions in class is associated with greater achievement of basic skills.

Background

Several recent studies have found that recitation, defined generally as a response by a student, can be an effective means of promoting both the acquisition and retention of knowledge. In 1928, Thayer observed that the recitation method, at its inception, was a progressive reform, making it possible for teachers to deal with much larger groups of students than they could by the earlier method which called for each student to recite the entire lesson at the teacher's desk. In 1912, classroom observers reported that eighty percent of the classroom talk was devoted to asking, answering or reacting to questions.

More recent research has focused on types of teacher questions and effects of questioning practices on student achievement. Although learning theorists use a variety of terms—response, participation, recitation—they are all meant to convey that some active involvement of the learner is a necessary requirement for learning.

Why Is Recitation So Important?

Recitation is one form of evaluation that:

- Tests what the teacher has actually taught.
- Allows for the provision of immediate feedback to the students.
- Provides sufficiently detailed results about individual students for the teacher's use in planning the next instruction.

At the same time, recitation is not time-consuming, not tedious, and does not require test-construction skills. Recitation also serves to let students know that they are accountable for their work. One way of looking at recitation is as a sampling procedure, whereby a teacher can estimate the learning of each student from the student's responses to a certain number of questions.

In one review of research about instructional practices and effects on student achievement, Rosenshine suggested that

there might be an optimal instructional pattern which he labeled as *directed instruction*.

> "The results of some studies also suggest that in direct instruction, the teacher is the dominant leader who decides which activities will take place. The learning is approached in a direct business-like manner and is organized around questions posed by the teacher of the materials." (Rosenshine, p. 54)

Bellack and others, (1966) very carefully described the verbal behavior of teachers and pupils in fifteen classrooms. They found that teachers talked between two-thirds and three-quarters of the time. Teachers were responsible for structuring the lesson and soliciting responses. The student's primary task was to respond to the teacher's solicitations . . . students should get more opportunities to talk and respond.

Descriptive and correlational studies laid the groundwork for more rigorous, controlled studies about question-and-answer recitation.

Examples from Research

The significant finding in two experiments was that recitation teaching was more effective in promoting student learning than a non-recitation instructional experience lasting for the same period of time. Exposure to the curriculum *plus* teaching was significantly more effective (Gall, et. al., 1978, pp. 175-199).

In another carefully controlled study of first grade reading groups, the following behaviors significantly improved reading achievement:

- The teacher used a pattern to select children to respond rather than calling on volunteers.
- Teachers did not allow students to "call out" answers.
- Time spent questioning individual students without use of the basal reader or workbook showed positive relationships with achievement. (Anderson, et. al., 1979, pp. 193-223)

A study of sixth graders learning an ecology unit showed that students learned a great deal under all (tested) variations of the recitation strategy. (Clark, 1979, pp. 534-551).

> To increase response opportunity, one teacher made student response boards (cardboard covered with black contact paper). As questions were asked of the entire group, they responded on the boards and held up for the teacher to check. Student response rates rose quickly!

In a 1966 study of disadvantaged elementary students, Harris and Seriver found that higher achievement gains were made in classes where teachers asked questions, called on pupils for responses, and ended by providing feedback to the students. Chall and Feldmann, also in a 1966 study, found higher achievement gains in classes where the class as a whole was participating actively in the lesson.

The Texas teacher effectiveness study as reported in the *Learning from Teaching* contrasts response opportunities in the effective high and low SES (socioeconomic status) classrooms and found "a teacher working in an effective high SES school ordinarily would have little difficulty in getting the answer she (sic) sought" and would, in fact, have "to work to keep order and maintain control over the flow of responses to see that everyone respected everyone else's turn and that lessons did not become overly com-

petitive." In contrast, teachers in effective low SES schools "often had to work to get any kind of response at all. They had to make it clear to the students that they expected and intended to wait for a response every time they asked a question."

What Types of Questions?

Research about effective instructional practices shows that there is no "ideal" type of question that is successful with all students. Some research has indicated that the difficulty level of questions (factual vs. higher level questions) may depend on several factors, including the aptitude and the motivation of the learner.

However, most research which involved young chidlren learning basic skills and low-achieving students indicates that "factual" type questions (which are tied to content and which allow a good student success rate) are most effective. It may be that factual questions lead to increased recitation which in turn leads to higher achievement of basic skills by low-achieving students.

If you decide that your learners need practice with higher-level questions, consider reviewing the M. Hunter article "Extending Students Thinking," or "Rx for Improved Instruction," both of which contain information and suggestions for higher-level

questions.

Norris Sanders in *Classroom Questions—What Kinds?* offers the following suggestions for composing questions:

1. When planning a lesson, look for the kinds of ideas that are important and susceptible to use in thinking.
2. Textbooks help a teacher present an orderly sequence of subject matter but are written in a manner that encourages only the use of memory. Higher level questions often require the withholding of conclusions drawn in the text until the students have had an opportunity to do some thinking. Questions in the higher categories frequently require sources of information in addition to the text.
3. There are several ways to teach almost any skill or idea that focus on different kinds of thinking. Be aware of all the possibilities in choosing the most appropriate for the objective to be taught.
4. Higher-level questions can be missed by students on lower intellectual levels. An application-level question, for example, can be missed because of inability to remember or to interpret the information.
5. In evaluating student progress, use questions requiring the same kinds of thinking that were used in the instruction.

Sanders offers numerous examples and other ideas for constructing questions. He includes a final section that offers a good conclusion for this section—one we need to consider carefully!

"As with any idea in education, a special concern for questions poses certain dangers. Teachers who strive for higher-level questions may lose interest in the bread-and-butter memory questions. They become so intrigued with sending students through intellectual labyrinths that they neglect fundamental knowledge. They may tend to cater to the capacities of superior students.

Simple questions designed for slow students are just as necessary as complex ones in all categories. Subjective questions are important and have a challenge of their own but should be mixed with a liberal number of objective ones. There is a satisfaction in giving the one right answer to an objective question and being told the response is correct."

To Increase Recitation/Response/ Participation

School programs and practices can be developed or modified to:

1. Ensure that *every* student is called upon as often as possible;
2. Include questions as an integral part of every lesson plan;
3. Maximize opportunities for students to respond to questions;
4. Provide aides, tutors, or other classroom helpers with appropriate questions for them to use with individuals or groups of students;
5. Use non-verbal (as well as verbal) responses to increase participation;
6. Increase student opportunities to respond in writing when oral questioning is not possible.

Parental Involvement

Variable 8: The greater the amount of parental involvement, the greater the achievement.

Research indicates that parents can influence their children's achievement in numerous ways. These include such items as parental aspirations, expectations, parent-school contacts, and supplemental at-home instruction.

A review of Gallup surveys over a ten-year period (1978) indicates: "A joint and coordinated effort by parents and teachers is essential to dealing more successfully with problems of discipline, motivation, and the development of good work habits at home and in school."

Parental Aspirations and Expectations

Parental aspirations consistently relate to success in school. This attitudinal variable usually takes the form of a "press for achievement."

Students gain in academic development when parental expectatons are high. Families, by placing a strong positive emphasis on schooling from early childhood throughout the school years, have the most lasting impact on student achievement.

The communication of expectations from parent to child is hard to get a handle on. It appears that this happens in a variety of ways, some of which include active involvement in school projects and activities.

How this communication of parental expectation actually takes place in not really certain. It appears that it can happen in a variety of ways. Active involvement in school projects and activities is just one of those ways. Other kinds of involvement will be found throughout the following sections.

Parent-School Contacts

There are many types of parent-school contacts. These contacts may take the form of conferences, notes, visits to the home, and/or workshops for parents and teachers.

Volunteer programs are another way that parents can be involved in schools. Research has indicated that volunteering to work in schools as tutors or para-professionals is associated with higher achievement gains. Volunteering is an effective way to increase parent-school contact and to give parents a feel for and understanding of what happens in classrooms.

Supplemental At-Home Instruction

There is evidence that more active involvement by parents in the home is effective. Achievement has been affected by parents who learned methods for promoting intellectual development or used effective teaching behaviors in working with their children on learning tasks or on behavior.

Since the amount of time spent on a task is so important for learning, parents can contribute to increasing time on task by providing supplemental classroom instruction at home.

The Oak Park School District in Michigan initiated a "Skill of the Month" program to encourage parents to help youngsters improve reading and mathematics skills. A monthly newsletter, written by a committee of parents, contains suggestions of fun activities that can be used with elementary children. Each newsletter focuses on a specific skill to share with children and encourages learning time at home.

Individual teachers have developed a wide range of practices for parents. Becker and Epstein (1982) identified techniques in five areas:

- Activities that emphasize reading. These would include parents reading to children or listening to the children read.
- Learning through discussion. One

example might be watching a particular television show and discussing it with children.

- Informal learning activities at home including home ideas for family games or a vities related to school learning.
- Contacts between teachers and parents that provided agreement to supervise and/or assist in homework activites.
- Developing teaching and evaluation skills in parents. These included techniques for teaching and creating learning materials.

Parental involvement is an important educational resource. It remains largely untapped! Planning and creativity are the only barriers to this limitless resource. There are no fail-proof methods of home/school cooperation and collaboration that will work in every setting, however, there are a variety of programs and activities to consider.

Policies and practices a school might wish to consider include:

- Special training workshops that will

help parents develop skills needed to teach their children.

- A program to recruit and train volunteers to work with children and with teachers.
- A Parent Plus program in Chicago brings poorly educated, low-income parents into the school one day each week to learn how they can help at home with school work and to expand their homemaking and community-related skills.
- A program to bring parents into schools regularly to observe their children in actual classroom settings.

One inner-city school produced significant gains in reading and mathematics scores after initiating a parent-involvement program. This program included:

Success Reports: At the beginning of the school year, both parents and students were informed of what students were expected to learn by the end of the school year. Student progress was reported to parents via telephone calls, notes, and home visits.

Discussion Groups: Informal parent/teacher discussions were held bi-monthly. Parents were encouraged to discuss any problems their children were having in school. Ideas for solutions were solicited from both parents and teachers. Sessions were held at both community centers and homes.

Parent Network: Parents who were involved in schools were assigned to keep five parents (who had not been involved) informed about school activities and events.

Monthly Calendars: A calendar listing books, films, television programs and cultural events, as well as planned school events and activities, was sent to parents monthly.

Mini-Workshops: Parents/teachers who indicated a willingness to instruct or share information on hobbies or topics of special interest were identified.

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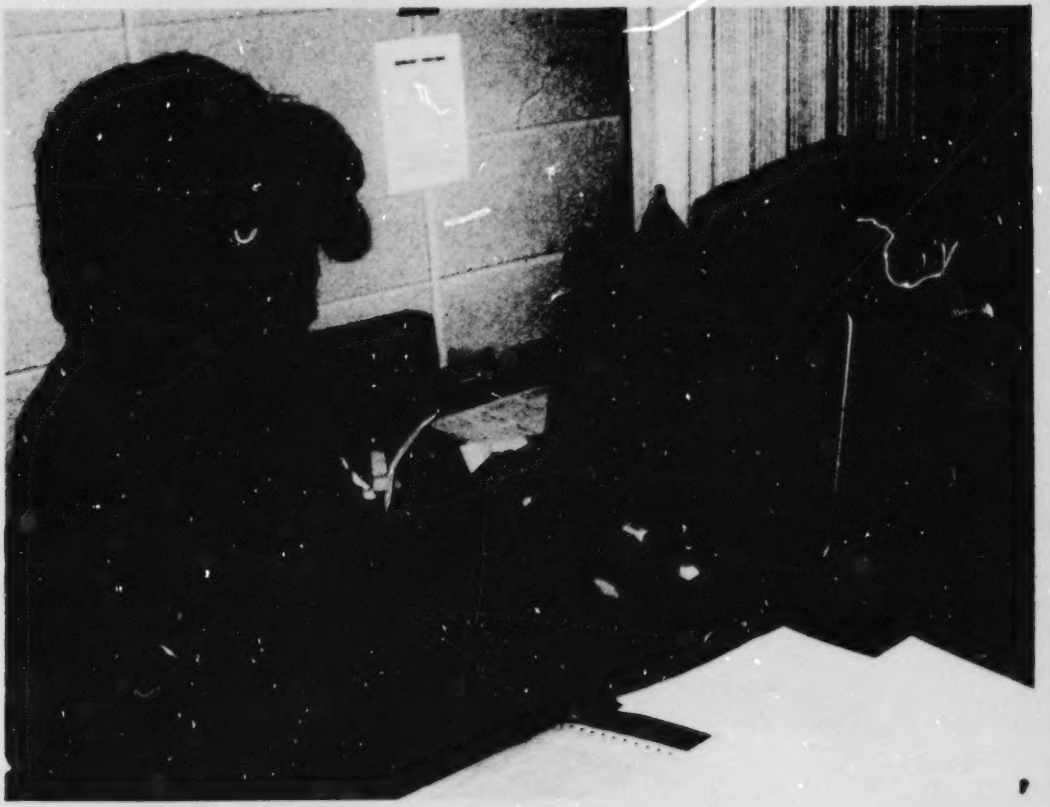

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Princeton, New Jersey

Baswant Singh
Educational Testing Service
Princeton, New Jersey

Dian Shaw, Consultant
Michigan Department of Education
Office of Technical Assistance and Evaluation

Judy Hood, Language Arts Consultant
Michigan Department of Education
Instructional Specialist Program

Paula Tissot, Supervisor
Michigan Department of Education
Instructional Specialist Program

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